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**Los Alamos  
National Laboratory**

Environment, Safety, and Health Division

Air Quality Group  
(ESH-17)

**Quality  
Assurance  
Project  
Plan**

for the

**Neighborhood  
Environmental  
Watch  
Network  
(NEWNET)**

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## General Information about this plan

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### Appendices

This plan has the following appendices:

Number	Appendix Title	No. of pages
A	Project Organization Chart	1
B	NEWNET Station Locations	1
C	References	2

## General Information, continued

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### History of revision

This table lists the revision history of this plan.

Revision	Date	Description Of Changes
0	5/25/01	New document.

## ***Section 1***

# **Quality Program**

## **Organization**

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### **Background**

As a part of the Consent Decree between the DOE and the CCNS, the DOE is required to operate the Neighborhood Environmental Watch Network (NEWNET) through September 2002. The decree was the result of a lawsuit brought against the U.S. Department of Energy (DOE) by Concerned Citizens for Nuclear Safety (CCNS) and citizen Patrick Chavez.

NEWNET serves as a prototype public outreach program to provide gamma radiation measurements, meteorological data, and tutorial information to the public.

The Consent Decree requires the operation of 13 Northern New Mexico NEWNET stations, and the presentation of data via a web site in “near real time” in English and Spanish. Additional stations have been added since 1997, as equipment was available; however, only 13 were required under the Consent Decree.

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### **What is NEWNET?**

NEWNET is a network of ambient monitoring stations having gamma radiation measurement and meteorological sensors. Each station is connected to a database. Data are available to the public via an Internet Web site (<http://newnet.LANL.gov>).

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### **Purpose of the system**

The NEWNET system is intended to provide real-time data on gamma radiation levels and meteorological measurements to the public to provide information concerning LANL impacts on the public.

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### **Purpose of this plan**

This QA project plan describes the policies and requirements that ensure NEWNET data are collected, analyzed, and reported in a consistent, agreed-upon manner.

## Organization, continued

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### Structure of the quality program

This QA Project Plan, including implementing procedures, is a second-tier document to the ESH-17 Quality Management Plan (ESH-17-QMP). The following documents provide requirements to ensure that the NEWNET system is operated in accordance with the requirements described in the chapter *Quality Objectives and Criteria for Measurement Data*:

- ESH-17 Quality Management Plan
- QA Project Plan for NEWNET (this document)
- implementing procedures

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### Group organization

The Air Quality Group (ESH-17) of the Environment, Safety, and Health (ESH) Division is responsible for the NEWNET system at Los Alamos National Laboratory (LANL). See the Group ESH-17 Quality Management Plan (ESH-17-QMP) for a description of the group organization, level of authorities, and lines of communication. The group is organized by project teams under the line management direction of the group leader. Project teams are cross-functional and focus on specific LANL air quality responsibilities, deliverables, or products. Project teams are guided by team leaders who have the responsibility to assure the project is completed.

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### Project organization

The ESH-17 Community Monitoring Project Leader manages the operation of the NEWNET. The project leader reports to the ESH-17 Group Leader. A group QA specialist is assigned to work for the project leaders to provide quality assurance assistance, advice, and review. Other group members work for the project leader to collect data, process collected data, maintain stations, manage databases, and provide data evaluation. In addition, representatives from other groups may participate and contribute to this team. The organization of the project is shown in Appendix A.

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### Other supporting organizations

Other groups in LANL and subcontracting organizations provide support to ESH-17 for the NEWNET system. CIC-12 has provided data management support, DX-7 provides data quality assurance support, and IM-1 provides Spanish language translation for the web site.

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### Station managers

For each off-site station, a member of the community will be invited to assist in managing and operating the NEWNET station. The station managers will be provided training on the operation and maintenance of the station and will assist with identifying and repairing station equipment.

## Organization, continued

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### CRMG

The Community Radiation Monitoring Group (CRMG) was established as a proactive effort by the DOE Oversight Bureau of the New Mexico Environment Department (NMED), Concerned Citizens for Nuclear Safety (CCNS), the U. S. Department of Energy (DOE), and the Los Alamos National Laboratory (LANL) to coordinate public input, public education, and volunteer efforts focused on operation of NEWNET. The CRMG provides a forum in which LANL and communities in Northern New Mexico can address concerns over environmental issues related to LANL operations.

The CRMG has been responsible for siting NEWNET stations and for making recommendations concerning data presentations on the web, training classes, etc.

The Oversight Bureau coordinates monthly public meetings of the CRMG to discuss the NEWNET monitoring of gamma radiation in the Northern New Mexico area.

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### Applicable regulatory quality criteria

Applicable quality criteria include the LANL "Quality Assurance Management Plan" (PRD-110-01).

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### Other monitoring requests

ESH-17 may be asked by the Laboratory management or other outside organizations to provide NEWNET stations for various purposes. As equipment supply allows and funding provided, these requests will be filled.

## ***Section 2***

### **Personnel Development**

#### **Personnel Training and Qualification**

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**Required  
personnel  
education**

Documentation of education qualification is maintained by the LANL personnel division. The NEWNET project requires personnel with the following skills:

- electronics or instrumentation technicians to perform system construction, calibration, and maintenance
  - health physicists to evaluate measurements and instrumentation
  - database programmers to maintain the database and the web site
  - bilingual writer/editor to prepare Spanish language version of NEWNET information on the web site
- 

**Training of  
personnel**

All personnel performing NEWNET-related work are required to obtain appropriate training prior to performing work governed by a procedure. Training for all NEWNET personnel will be performed and documented according to the ESH-17 procedures for training (ESH-17-024) and orienting new employees (ESH-17-032).

## Section 3

### Quality Improvement

#### Improving Quality

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**Performance reports**

Personnel assigned by the Community Monitoring Project Leader to perform activities provide periodic updates, either verbal or written, to the Community Monitoring Project Leader. These updates are used by the project leader to determine areas that require attention.

The project leader provides periodic updates, either verbal or written, to the group leader. These updates are used to keep group management apprised of the focus of the NEWNET activities and to identify any shortcomings that may be identified.

The Community Monitoring Project Leader will prepare (or direct personnel to prepare) performance reports annually or as needed. These performance reports will address items such as:

- System performance
  - System modifications/upgrades
  - Problems or deficiencies identified during assessment activities or during routine performance of work
- 

**Performance report distribution**

The following receive copies of project performance reports:

- ESH-17 Group Leader
  - ESH-17 Quality Assurance Officer
  - Community Monitoring Project Leader
  - NEWNET Project personnel working on NEWNET activities
- 

**Corrective actions within ESH-17**

Corrective actions for all ESH-17 projects are initiated, tracked, corrected, and documented according to the ESH-17 Quality Management Plan and group procedure ESH-17-026, "Deficiency Tracking and Reporting."

**Reports from station managers or community members**

When recommendations or reports of problems are received from community members or station managers, the Community Monitoring Project Leader will oversee and track the implementation of appropriate fixes or, for violations of requirements, initiate a deficiency report in accordance with ESH-17-026.



## ***Section 4***

### **Documents and Records**

#### **Project Documents and Records**

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**Revising this plan**

This plan will be controlled through the ESH-17 document control program (ESH-17-030, "Document Distribution"). The project leaders, at least one reviewer, and the group leader will approve all revisions to this plan. Revisions to the plan will be provided to the CRMG; the CRMG will be invited to review changes prior to implementation.

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**List of document recipients**

This document will be controlled under the organization's document control system (ESH-17-030, "Document Distribution") to ensure that those performing work for the system will receive a controlled copy and all revisions. Those who will receive or have nearby access to a controlled copy include:

- ESH-17 Group Leader
  - ESH-17 QA Officer
  - ESH-17 Community Monitoring Project Leader
  - ESH-17 NEWNET system staff members
  - ESH-17 NEWNET system technicians
  - Assistant Area Manager, Office of Environment and Projects, DOE Los Alamos Area Office
- 

**Procedures**

Procedures will be developed as necessary and in accordance with the policy in the ESH-17 QMP.

## Project Records

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### **Records resulting from the NEWNET project**

The number, type, and detail of all records to be kept will provide sufficient information to allow an individual with equivalent education and training to verify or reconstruct the results. Implementing procedures specify the records, forms, logbook entries, or other information to be kept as documentation of the performance of the procedure.

Records to be kept in the ESH-17 records system (ESH-17-025, "Records Management") include the following:

- logbook entries and/or field forms to record station repairs and maintenance
  - equipment and instrument calibration and maintenance records
  - general correspondence that affects the system
- 

### **Records final disposition and retention period**

All records will be maintained and available (after the deadline for submittal as given in applicable procedures) for auditing in the records center at the ESH-17 group office (ESH-17-025, "Records Management"). Records will be archived in compliance with Laboratory and DOE requirements for records retention, storage, and management. These requirements specify the protection of records from damage due to fire, flood, or rodents; monitored access to the records; and maintenance of the records for up to 200 years (DOE/HQ DRAFT document, "DOE Records Schedule for Environmental Records," November 1996).

## ***Section 5***

### **Work Processes**

#### **Planning and Performing Work**

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**Policy**

Work that contributes to achieving the quality specifications of NEWNET project deliverables will be planned and documented in this plan and appropriate implementing procedures (see ESH-17-QMP, section 5). Work will be performed according to plans and procedures. The Community Monitoring Project leader will provide first line supervision of personnel assigned to project tasks to ensure work is performed to achieve project quality specifications. Before changing a work process that affects the project quality specifications, the project leader will ensure the same level of planning and review as used in the initial project planning steps.

## Quality Objectives and Criteria for Measurement Data

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### What are DQOs?

Data quality objectives (DQOs) are statements of the uncertainty level a decision-maker is willing to accept in results derived from environmental data. DQOs must strike a balance between time, money, and data quality.

The DQOs are then used to develop a scientific and resource-effective data collection design. Because much of this project, such as the type of measurements and approximate locations, are specified in the Consent Decree, the DQO process is constrained by the Decree. NEWNET system operations presented in this document reflect these requirements.

Only a portion of the DQO elements can be defined in this plan, because the Consent Decree requirements determine some of the elements. In addition, the NEWNET data are for use by members of the public. The manner in which NEWNET data are used is a decision which members of the public will make and so are not directly specified in this plan.

### Spatial Boundary of the Study

The spatial boundaries of interest for the NEWNET system include the region surrounding LANL and monitored by the NEWNET stations. The Consent Decree states NEWNET will be supported in its configuration when the Consent Decree was signed. Station locations can be changed with mutual agreement between LANL and CCNS.

### Temporal Boundary of the Study

Monitoring of external penetrating radiation by the NEWNET system will be conducted until September 2002 as specified in the Consent Decree, and may be extended by LANL.

### Practical Constraints on Data Collection

- Funding levels to support the Consent Decree
- Equipment capabilities
- Damage to stations due to animals, people, or weather

## Quality Objectives and Criteria for Measurement Data, continued

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**Measurements to be made** Measurements will be provided of the following parameters:

- gamma radiation levels
  - temperature
  - barometric pressure
  - relative humidity
  - wind speed and direction
- 

**Comparability** Comparability is a measure of the confidence with which one data set can be compared to another.

Comparability of the NEWNET data is ensured because of the use of the same equipment, processes, and analytical methods at all station locations.

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**Completeness** Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount that was expected to be obtained under correct, normal conditions.

Data may be lost due to equipment malfunction, power failure, station destruction, human error, or unacceptable data uncertainty.

The NEWNET system will be designed to achieve the performance objective of 98% reporting of all the measurements possible during a calendar year, as described in the section “calculating data completeness”.

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**Precision** Precision is a measure of mutual agreement among individual measurements of the same property, usually under prescribed conditions, expressed generally in terms of the standard deviation. It refers to the variability that occurs if the same readings were performed again at the same location and at the same time with no change in conditions, or the degree to which repeated measurements on the same measurement agree. Results of duplicate measurements provide an estimate of instrument precision.

Instead of providing separate precision specifications, the NEWNET project has specified combined accuracy and precision for the measurements (see below).

## Quality Objectives and Criteria for Measurement Data, continued

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### Accuracy

Accuracy is the degree of agreement of a measured value with the true or expected value of the quantity of concern.

The NEWNET system is currently operated so that the measurements have the following precision and accuracy:

- Gamma radiation:  $\pm 5\%$  precision,  $\pm 60\%$  accuracy from 0.07 to 0.3 Mev and  $\pm 20\%$  from 0.3 to 8 MeV.
- Temperature:  $\pm 3.0$  degrees Celsius
- Atmospheric Pressure: 0.7%
- Wind Speed:  $\pm 1.0$  mph
- Wind direction:  $\pm 8$  degrees
- Relative Humidity:  $\pm 10\%$  at 25 degrees Celsius

## Station Design

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### Sampling system design

The primary design objective for the radiation monitoring system is to provide accurate measurements of gamma radiation levels around the station locations. To achieve the objective, the system design is based on standard instrumentation for real-time gamma radiation (DOE/EH-0173T).

All NEWNET stations are operated continuously. The stations contain a high pressure ion chamber (HPIC) to measure gamma radiation and meteorology instruments to measure selected meteorological parameters.

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### Station location selection rationale

Locations for the NEWNET stations (listed in Appendix B, *NEWNET Station Locations*) were selected by the CRMG or at the request of other organizations. Locations are evaluated regularly and the locations are subject to change.

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### Sampling frequencies

The data logger accumulates data at one minute intervals which are then averaged for 15 minutes.

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### Measurement parameters

The following parameters may be measured, all averaged every 15 minutes:

- gamma radiation
  - temperature
  - pressure
  - humidity
  - wind speed and direction
- 

### Station siting evaluation criteria

New NEWNET station sites may be proposed by the CRMG or LANL. However, funding beyond the 13 original NEWNET stations required by the Consent Decree may or may not be available. Stations may be moved from existing locations with the approval of the CRMG. Once a “macro-scale” location is selected, the specific location of the station should consider the following criteria.

1. **Distance to obstructions (primarily buildings) greater than ten times the height of the obstruction:** The distance between the station and the obstruction should be at least ten times the height of the obstruction. This criterion assures unrestricted air flow for meteorological measurements.

## Station Design, continued

2. **Good topographic location:** The area site should be as level and flat as possible. This will provide a stable foundation for the station.
3. **Obstructions:** Obstructions between the source and the station are minimized.
4. **Sources of radiation:** The station is isolated from anomalous sources of radiation. A radiation survey should be performed on a rough grid covering the proximity to ensure that the site chosen does not have a significantly different natural background exposure rate than nearby areas. Man-made sources of radiation should also be considered.
5. **Grounding:** The site should be suitable for driving electrical grounding rods. The site should be underlain by soil and not sand or rock.

Uniform application of these criteria is important to ensure consistency and adequacy among station locations. Good scientific judgment will be used to select the optimal location based on site-specific criteria and on specific measurement needs. However, not all sites can meet all these criteria. In some cases, a station may be sited close to a building. In this case, it may not be appropriate to include meteorological instrumentation on the station.

### NEWNET station equipment

A NEWNET station typically consists of a HPIC, temperature sensor, pressure sensor, humidity sensor, and wind speed and direction sensors. Equipment have the following specifications:

Parameter	Instrumentation	Specifications
Gamma Radiation	Gamma radiation is measured by a Reuter-Stokes High Pressure Ionization Chamber, model RSS-100 (RSS-1013 system includes the electronics, display and Model 100 PIC); Model 120 on portables. This instrument has an ionization chamber filled with argon to a pressure of 25 atmospheres (about 450 psi). Reuter-Stokes is a subsidiary of General Electric.	Range: 0-100 mR  Precision: $\pm 5\%$  Accuracy: $\pm 60\%$ at 0.07 to 0.3 MeV, $\pm 20\%$ at 0.3 to 8 MeV Ionization chamber volume: 7.9 liters  Energy response: 0.07 to 8 MeV



## Station Design, continued

Parameter	Instrumentation	Specifications
Temperature	Temperature is measured by a Met One model 064-2 temperature sensor mounted in a Model 075 or 5980 solar shield to reflect solar radiation.	Range: -50 to +50° C
Humidity	Humidity is measured with Rotronic Hygromer™, model 200 series.	Humidity Range: 0-100% RH  Precision at 68-77° F: ± 10%  Temperature limits at sensor: -5 to 212° F (-20 to 100° C)
Barometric Pressure	Barometric pressure is measured by a Met One Barometric Pressure Sensor Model 090D. This is available in a number of calibration ranges, determined by the elevation of the station.  Barometric pressure decreases by about 1" Hg per 1000 ft of elevation. The value is converted to millibars of barometric pressure, and is reported unadjusted for elevation. (Values normally reported in weather reports have been adjusted to pressure at sea level.)	Calibration Range (standard model): 26-32" Hg at 0-1500 feet (elevation)  Accuracy: ± 0.7%  Operating temperature range: -22 to 50° C

## Station Design, continued

Parameter	Instrumentation	Specifications
Wind	Wind data is measured by Met One Model 6266/037 System, consisting of a wind speed sensor (anemometer cup) and wind direction sensor (vane).	Range:0-100 mph; 0-360 degrees Threshold: 1.0 mph, speed and direction indicators Accuracy:±1.0 mph; ±8 degrees Distance Constant: <5 feet (speed<;1.5 feet (direction) Damping Ratio:0.25 (direction) Temperature Range: -50 to +85° (speed); -50 to 70° C (direction)
Main power batteries	12V GNB Sunlyte 5000X	100 AH lead-acid
HPIC battery	300V lithium pack	55mAH lithium
Data logger	Synergetics	
Satellite transmission equipment	GOES 10W and 40W (portable) transmitters; Crossed YAGI antenna	

### Duplicate sampling and analysis

The NEUNET project maintains a supply of back-up sensors. These sensors may be placed in the field when existing sensors are found to be malfunctioning. These side-by-side measurements can be used to identify the source of measurement problems.

## **Instrumentation and Equipment Testing, Inspection, and Maintenance**

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### **Preventive maintenance of the stations**

Operation and maintenance of the field equipment is the responsibility of personnel assigned to perform this work by the Community Monitoring Project Leader.

Station managers are asked to routinely inspect NEWNET data for their stations on the web and at the station to identify problems. The station managers may work together with the NEWNET staff to identify and correct instrumentation problems.

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### **Preventive maintenance of the meteorological sensors**

All sensors will be replaced on an annual basis with pre-calibrated and tested units. Units will be calibrated and refurbished at the shop or by the manufacturer.

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### **Operational checks of the HPICs**

The HPICs will be zero-checked and calibrated on an annual basis.

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### **Battery tests**

The 12V spill-proof batteries will be load-tested upon receipt and prior to installation.

The 300V HPIC batteries will be replaced on an annual basis or when the voltage drops below 285 volts, whichever occurs first.

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### **Tower hardware**

The tower and grounding equipment will be inspected once per year.

## Instrument Calibration and Frequency

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**Calibration of HPICs** On an annual basis, the HPICs' calibration will be checked as specified on page 116 of the Reuter-Stokes RSS-131 manual. This calibration procedure will also be performed any time the HPICs have required repair. Calibration results will be recorded in a logbook.

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**Meteorological instrument calibration** The instruments for measuring atmospheric relative humidity, barometric pressure, wind speed and direction, and temperature will be calibrated by their manufacturer or as specified in procedure ESH-17-402. Currently, these instruments are calibrated annually.

## Data Management

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### **Data transfer and management**

The data taken by the NEWNET station are currently transmitted to a GOES satellite. The data are then relayed through NOAA, Wallops Island, Virginia and then to the domestic satellite network (DOMSAT). The DOMSAT transmits the data to a NEWNET receiving station and then stored on a computer called the Direct Read Out Terminal (DROT). The data are then stored in an ORACLE database on the DEC alpha computer. The Oracle database sends data to the Web servers where it is available to the public (newnet.lanl.gov).

A complete description of the data management system is presented in the "NEWNET Database Software System General Documentation" (Sofaly et al, 2001). The documentation includes a description of the hardware systems, database structure, system administration procedures, and web page design/operation.

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### **Spanish language translation**

All web information is translated into Spanish and made available on parallel Spanish-language web pages. NEWNET data quality assurance personnel or instrument technicians provide station comments to the Spanish language translator on a periodic basis. The translation is then loaded onto the database and to the web page.

## Data Review, Validation, and Verification

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### Data review process

NEWNET data are reviewed each working (business) day by the NEWNET data quality assurance personnel. The review process has two steps: data transmission and preliminary data quality review, and detailed data quality review. NEWNET data are not specifically qualified or rejected in the database. Missing data are not reconstructed or estimated. However, comments concerning data quality are stored in the database and presented on the web by station.

If instrumentation errors are identified in the detailed data quality review, the NEWNET instrumentation technicians are notified to address the problem. In addition, the station manager is notified.

Station managers also periodically review the data from their station. Their comments and observations are called in or e-mailed to the NEWNET data quality assurance personnel for follow-up.

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### Parameters reviewed and evaluation criteria

The quality of the NEWNET data transmission, meteorological data, and gamma radiation data are reviewed.

NEWNET data transmission: The following parameters are reviewed for each transmission for each station:

- Transmission error flags
- Battery voltage
- Effective Isotropic Radiated Power
- Forward Power
- Reflected Power
- Size of transmission
- Status word
- Time of transmission

NEWNET data QA personnel develop a preliminary report each business day, indicating the presence of data problems. These problems can include transmission errors, low battery voltage, off-normal power signals, truncated data transmission, error status codes, off-normal transmission times. This report is circulated to other NEWNET QA personnel and the instrumentation technicians.

## Data Review, Validation, and Verification, continued

A detailed data transmission review is performed if the preliminary review identifies any problems. The raw hexadecimal data received by the DROT are decoded using the information provided in the Synergetics datalogger manual. The decoded hexadecimal data may indicate that a simple data transmission error has occurred (e.g. reversing the order of two digits).

### Meteorological data:

The meteorological data (wind speed, wind direction, relative humidity, barometric pressure and temperature) are evaluated against standard ranges in the preliminary data review. The graphics program MET\_QA is run (providing a time series of individual parameters for the most recent week) for the detailed data review, to identify trends and to evaluate the data for meteorological consistency.

### Gamma radiation data:

Gamma radiation data are reviewed to identify elevated readings. These may be produced by LANL operations, weather conditions, or instrument/transmission errors/noise. When elevated readings are observed in the detailed data quality review, the NEWNET data quality assurance staff member investigates possible LANL sources or weather phenomenon. If the elevated readings cannot be attributed to these items, the NEWNET instrument technicians are notified to investigate instrument error or noise. Descriptions of elevated readings are saved in the database and presented on the web site.

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### **Handling of outliers**

Outliers remain in the database; they are not removed from the database or web presentation.

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### **Calculation of summary statistics**

Summary statistics for each site will be calculated. The elements of the summary record consist of:

- annual run time for the station
- annual completeness of the data by individual parameter.

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### **Calculation of gamma radiation averages**

On the web site, for each station, gamma statistics are calculated for the period requested by user. This includes the minimum, maximum, average, standard deviation for the time period selected. In addition, the total exposure is calculated for the period.

## Data Review, Validation, and Verification, continued

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**Verification  
by hand  
calculation**

The data calculations performed by the database or spreadsheet program will be verified periodically by manually calculating the average gamma radiation value for a specific time period, the standard deviation of the gamma radiation, and the total exposure for the time period.



## Reconciliation with Data Quality Objectives

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### **Calculating data completeness**

For all stations, data completeness will be calculated on an annual basis. Completeness will be calculated as follows:

- Run time of each station: the total number of 15 minute sampling periods for each station divided by the total number of 15 minute periods in the time period being evaluated.
- Data completeness: number of verified and validated results obtained for each parameter at a station divided by the total number of possible data points (adjusting for stations that were established for only part of the year) in a calendar year.

These data will be compared to the completeness criteria of 98% run time and 98% data completeness.

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### **Failure to meet specified DQOs**

When differences are identified between specified and measured values for completeness, a deficiency report will be generated (ESH-17-026), and the causes of the differences will be investigated, reported to management, and corrected where possible.

## ***Section 6***

### **Design**

#### **Design**

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##### **Identify design requirements**

The NEWNET project requires no hardware design activity.

## ***Section 7***

### **Procurement**

#### **Procurement**

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**Procurement  
of items and  
services**

Procurement of items and services used in the NEWNET project will follow the Laboratory procurement process and the requirements in the ESH-17-QMP. Most items and services required for the project are commercial grade in nature and no special procurement requirements or needs are necessary. For items and all services for which special requirements are necessary, the Project Leader and project members will identify such items or services.

## ***Section 8***

### **Inspection and Acceptance Testing**

#### **Inspection and Acceptance Testing**

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**Policy**

Any materials or services will be inspected and/or tested prior to acceptance for use in the NEWNET Project. Most supplies used during performance of NEWNET activities are commercial grade in nature and require no special acceptance practices or procedures.

## ***Section 9***

### **Management Assessment**

#### **Project Management Assessments**

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**Internal  
assessments**

The Air Quality Group conducts internal management assessments of all projects and programs in the group in accordance with requirements in the ESH-17 Quality Management Plan. Assessments of the project are documented and filed as records.

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**Responding to  
assessments**

When violations of requirements are found during a management assessment, a deficiency report is initiated to document the violation. Corrective actions are tracked and documented in accordance with ESH-17-026, "Deficiency Reporting and Correcting."

## ***Section 10***

### **Independent Assessment**

#### **Project Assessments**

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**Policy**

Independent assessments are those assessments conducted by organizations external to ESH-17. As required by the ESH-17 QMP, NEWNET may be assessed by outside organizations.

In addition to these assessments, the NEWNET Project will also be subject to additional audits/assessments as required by LANL policy and/or the group leader.

The Community Monitoring project leader (in coordination with the group QA officer) will ensure that all required assessments are conducted.

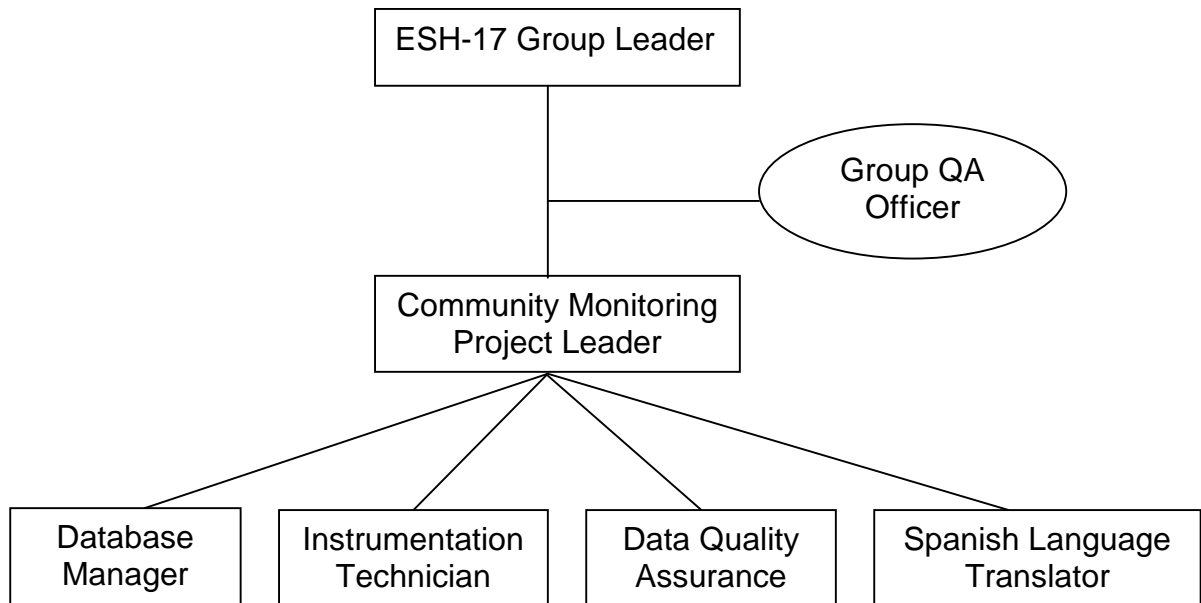
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**Assessments  
by the CRMG**

The CRMG has expressed periodic interest in assessing portions of the NEWNET project. The Community Monitoring Project Leader will work with the CRMG to organize these assessments.

## ***Appendix A***

### **NEWNET Project Organization**







## ***Appendix B***

### **NEWNET Station Locations**

The following stations are in place on the date of this plan. For a current list, contact the Community Monitoring Project Leader.

<b>NOAA number</b>	<b>Station Name</b>	<b>Location</b>
36580	KAPPA site	TA-18, east ridge.
376F6	Ohkay Owingeh	Ohkay Owingeh School grounds, SE corner of playground.
39504	San Ildefonso	San Ildefonso, between judges chambers and fire station.
3C578	LA High School	Front lawn, parallel with Diamond Dr.
3D60E	East Gate	~500' ESE of East Gate guard tower, located in building on canyon rim.
3E394	Buey East	Canada Del Buey canyon, ~ 1 mile west up canyon from Met Tower.
3F0E2	TA-54 EVAL	Area G, ~ 50' west of TA54 G South station.
40252	Met Tower	1/8 mile from Pajarito road entrance to Canada Del Buey.
424BE	TA 54 Area G south	South end of Area G, west of TWISP facilities.
437C8	DP West	DP road, ~300' west of TA21.
44158	S-Site Bldg S-218	TA16/218, setting off NE corner of building 218.
474C2	Cochiti	In Cochiti Pueblo, ~1/4 mile south of baseball fields on west side of road.
48446	Espanola	NNMCC, setting on lawn adjacent to gymnasium.
4A2AA	SF Indian School	Front lawn, off Cerrillos rd.
4B1DC	Santa Clara (Puye)	West on Puye Cliffs road to the Arts and Crafts area, ~ 600' N of roadway.
2029C	TA54,Area G (port)	Outside fenced area of AreaG, NE corner of TWISP area, ~ 40' N of air sampler station.
211EA	TA-3 portable	To be located at Diamond Dr. & Pajarito Rd. intersection, ESH-4, TA-3.
116E4	Raton Pass NM	Port of Entry, ~ 20' N of NE building corner, ~10' W of scales. Operated at the request of NMED to monitor waste shipments to WIPP.
1237E	El Dorado NM	~300' SW of Country Store, next to water tank. Operated at the request of NMED to monitor waste shipments to WIPP.



## ***Appendix C***

### **References**

#### Requirements and guidance documents:

DOE Order 5400.1, "General Environmental Protection Program," changed June 29, 1980

DOE Order 5400.5, "Radiation Protection of the Public and the Environment," changed January 7, 1993

DOE Order 414.1, "Quality Assurance," issued November 24, 1998 (supersedes DOE Order 5700.6C, "Quality Assurance")

DOE/HQ DRAFT document, "DOE Records Schedule for Environmental Records," November 1996

DOE/EH-0173T, "Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance," January 1991.

PRD-110-01.0, "LANL Quality Assurance Management Plan," Los Alamos National Laboratory, January 1, 1993

LALP-93-47, "Calibration Handbook," Los Alamos National Laboratory, June 1993, superseded by NOTICE No. 0044

NOTICE No. 0044 Changes to Laboratory Calibration Program; see ESA-MT home page (to be superseded by LIR 402-140-01)

FFCA, "Appendix A Compliance Plan" of the "Federal Facility Compliance Agreement, June 1996

Consent Decree, Concerned Citizens for Nuclear Safety vs. U.S. Department of Energy and Sigfried S. Hecker, U.S. District Court for the District of New Mexico, 1/17/97

#### Group ESH-17 Air Quality documents:

ESH-17-QMP, "Quality Management Plan for the Air Quality Group"

ESH-17-MET, "Quality Assurance Project Plan for the Meteorology Monitoring Project"

ESH-17-022, "Preparation, Review, and Approval of Procedures"

ESH-17-024, "Personnel Training"

ESH-17-025, "Records Management"

ESH-17-026, "Deficiency Reporting and Correcting"

ESH-17-029, "Management Assessments"

ESH-17-030, "Document Distribution"

ESH-17-032, "Orienting New Employees"

ESH-17-402, "Calibration & Maintenance of Instruments for the Met. Monitoring Program"

Other references:

"NEWNET Database Software System General Documentation", version 4.0, prepared by  
Karla Sofaly, Clayton Watson, and Mike McNaughton, February 2001.